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ABSTRACT

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Improving the Fit

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Improving the Fit

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Edward Jones and Charles F. Harrington

UNIVERSITY CONTINUING EDUCATION ASSOCIATION

Abstract

Broad-based assessment and evaluation must form the foundation of planning for economic and workforce development engagement opportunities by a college or university. This involves assessing workforce development needs and evaluating how well current curricular offerings respond to those needs. Higher education institutions can successfully integrate economic and workforce development activities into their institutional strategic and operational planning processes, to the mutual benefit of all constituencies. This paper presents a case study of how the University of Southern Indiana successfully completed such an assessment and has adjusted its curricula accordingly.

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Improving the Fit – How to Use Assessment Data To Connect University Curricula to Workforce Needs

With the "New Economy," Universities Face New Expectations

Some in higher education perceive "workforce development" as the vocational and technical skills training provided by community colleges and technical schools. Traditionally, the four year college or university limited its role to pre-workforce education provided through various undergraduate and graduate degree programs, continuing education for professionals, and selected "college-level" training opportunities for incumbent workers. But with increasing clarity, state executives, legislators, and policymakers see the "new economy" as inescapably tied to the development of the workforce at all levels. And colleges and universities, especially those supported or assisted with state funds, must expect to play an expanded role in developing the human resources of their state and region.

Overview: The Quest for Knowledge Workers

The need for a well-educated, highly skilled workforce is strong and thoroughly documented. Without such a workforce we cannot sustain an increasingly technological and information-based economy.

Over the past decade, the development of America's workforce has become more critical as the population becomes more diverse. With differences of language, culture, education and skill levels, employers from all sectors report inadequate levels of preparation in skills needed to compete successfully in an increasingly global marketplace. In response, state and federal legislatures have initiated and provided funding for numerous workforce preparation and development programs.

Collaborative Partnerships: Capitalizing on the Strengths of Multiple Providers

Time has proven that the best workforce development programs involve an integrated plan capitalizing on the strengths of a variety of providers: two- and four-year institutions, Workforce Investment Board partner agencies, corporate internal training, and for-profit providers. Many such partnerships are now delivering a variety of programs and services for both pre-workforce education and for skills improvement in the incumbent workforce. And many state supported universities are responsible —and accountable —for making sure these collaborative partnerships succeed.

The "Engaged" Institution: A Catalyst for Economic Change

Higher education has not always responded to community economic and workforce development overtures with urgency or responsibility. Many institutions have poor records, having contributed modest assistance and rarely engaged in community renewal initiatives. Today's higher education leaders understand that institutions can and should be catalysts for economic change. For some institutions, the future and prosperity of the community are tied inextricably to sustained economic growth. For these institutions, enabling and supporting broad-based workforce development may become a moral imperative.

Higher education in the role of equal partner with business, industry, and government offers many potential benefits. Because of these benefits, institutions are eager to become primary players in the process. To become successfully engaged, an institution must first gain an understanding of the landscape by:

1) studying relevant data about the state's economy, both its current condition and potential;
2) identifying and assessing needs that can be realistically addressed appropriately and in a timely manner;
3) evaluating its own curricular strengths, resources and capabilities; and
4) determining the best fit among all these elements.

States Focus on Workforce Development & Higher Education

• In 1999, the **North Dakota** legislature mandated that the state university system collaborate with community colleges to provide workforce education and training services throughout the state. It provided funding to ensure real collaboration took place.

• In **Maryland**, the state legislature funded a consortium of public and private higher education institutions to work with external advisory boards to redesign existing programs and develop new curricula to double the number of IT program graduates.

• **West Virginia**'s governor issued a comprehensive plan to prepare the state and its workforce for the new economy. Included were incentives to develop entrepreneurship programs in business and engineering schools, and promote partnerships between higher education and industry to create manufacturing jobs.

• **Utah** recently enacted legislation designed to double the number of college and university graduates in engineering, computer science, and related technologies in five years.

• **Arizona**'s Department of Commerce offers reimbursement grants for customized job training. The program began in July 1993 and at its start matched 75 percent of the training costs incurred for new employees. In 2001, the program expanded to include existing employees enhancing their skill sets—matching their costs up to 50 percent of allowable training costs.

• **Florida**'s Workforce Innovation Act of 2000 created an Agency for Workforce Innovation. AWI serves as the primary administrative/fiscal agent for the state's workforce system and as the conduit for federal and state workforce resources provided to 24 Regional Workforce Boards throughout Florida.

• In **Louisiana**, the city of New Orleans received a $2.7 million federal government grant to address, in a partnership with the University of New Orleans Metropolitan College, a labor shortage of IT workers. Funding comes from the H-1B Visa Program whereby the government uses fees collected from companies who hire temporary foreign workers to fund high-skill training of American workers. In New York, a similar grant is helping CUNY and SUNY institutions to train 675 healthcare workers for high demand nursing positions.

• In **California**, nearly 30,000 teachers are employed with emergency permits or waivers. (The state will need 300,000 new teachers over the next ten years.) CalStateTEACH, an 18-month CSU program, combines distance education and face-to-face interaction for working teachers seeking credentials. With the support of the governor and state legislature, it began in the fall of 1999 and now includes 800 participants. Between 1996-97 and 1999-2000, CSU increased by 40 percent the number of teachers it annually recommends for credentials .

•The **Indiana** Commission for Higher Education, in planning for the 2001-03 biennial budget requests, earmarked all higher education new program development funds for "new economy" initiatives that focused on workforce and economic development. The Commission asked institutions to focus new degree program development requests on new economy initiatives.

As initiatives proliferate across the 50 states, this paper illustrates how the University of Southern Indiana successfully developed new workforce development programs based on specific needs identified by the USI President's Task Force and other related regional studies.

How can an institution gather and assess the necessary data in an effective way?

Data gathering and assessment on the scale necessary to gain a comprehensive understanding of an institution's workforce and economic development contributions can be an unwieldy process—particularly for institutions with limited staff and resources devoted to institutional research. The model described below shows how an institution can telescope that process, gauge its surroundings and respond in a relatively short time frame to regional and/or state workforce needs and provide a better curricular fit.

A Case Study in Southern Indiana

Two large manufacturers—Toyota and AK Steel—located in rural Southern Indiana in the late 1990s and brought with them a number of support industries. The president of the University of Southern Indiana (USI) recognized that the University needed to act quickly to meet a shortage of highly skilled workers at all levels. He appointed an internal task force on workforce and economic development to conduct an assessment of needs and identify appropriate responses. It was obvious that one important USI resource was its wide array of outreach programming which offered both graduate and undergraduate degrees and extensive outreach services. Also, USI had a strong record of forging effective partnerships and linkages in similar efforts. Still, adapting existing curricula to the education and training needs of the changing regional economy required both immediate and long-term responses.

With completion of the second phase of the plant in 2002, Toyota Motor Manufacturing, Indiana (TMMI) and AK Steel will employ approximately 4,300 workers. AK Steel has nearly 600 workers on site of which about 25 percent are employed directly by AK and the remainder are contracted employees of suppliers. Support organizations and suppliers include: Dana Corporation, Autoliv, Vuteq Corporation, AISIN, Toyotetsu, Trim-masters, and Toyota Tsusho. TMMI and AK Steel—and the suppliers—require highly skilled workers at all levels. Because these two operations offered higher pay scales than other employers in the region, they caused something of a domino effect causing highly skilled workers in other companies to move TMMI and AK Steel as more attractive positions opened. Even after the 2001 downturn in the economy, unemployment in the region has remained at about 5 percent, with a shortage of skilled workers.

For the 2001-03 biennium, the Indiana Commission for Higher Education asked institutions to focus new degree program development requests on "New Economy" initiatives. Planning for the budget request coincided with the USI President's Task Force on Economic and Workforce Development. The Legislative session ended in late April 2001. Because of projected shortfalls in state revenues over the next two years, limited funding was provided for new programming. However, the University has moved ahead with development and implementation of new programs that resulted from needs identified by the President's Task Force and other related regional studies as well as the "New Economy" initiative of the State.

USI President's Charge to the Task Force on Economic & Workforce Development

1. Audit existing curriculum, education, and training programs.
2. Study existing and emerging economic trends in the University service area.
3. Conduct a comprehensive economic impact study.
4. Undertake a regional effort to generate increased awareness of the University role in economic and workforce development.

SUMMARY OF ASSESSMENT MEASURES USED

USI developed assessment measures to improve the fit between regional needs and the existing institutional curriculum. Using existing economic and workforce development initiatives in the southwest Indiana region, the plan developed around the following elements.

Internal Mechanisms

To monitor the fit between workforce development needs and the University's current programs and courses, internal assessment mechanisms include:

- Academic program review;
- Distance education advisory committee;
- Regional and discipline-specific accreditation self-studies;
- Community advisory panels;
- University-wide budget hearing process;
- On-going monitoring of the institution's economic impact on its service region; and,
- Forging partnerships with other educational institutions, government and other public agencies, and business and industry on statewide initiatives directed at workforce and economic development issues.

External Advisory Groups

Community Advisory Panel Members were drawn from:

- business and industry
- local government
- public school corporations
- public utilities
- federal government
- local media

Strategic Allies

USI allies include:

- area Chambers of Commerce
- economic development agencies
- regional Workforce Investment Boards
- department of workforce development
- economic development council
- modernization and technology council
- area community colleges
- business and industry
- professional associations
- trade groups
- K-12 school–corporation partnerships

The approach of using internal monitoring, external advisory groups, and stategic allies, provides an institution with a continual flow of current data and information concerning emerging issues. It allows a university to capitalize on opportunities to serve its various constituencies more efficiently.

Stay Focused: You Can't Be All Things to All People

It is difficult to determine how well academic and noncredit programs contribute to workforce development needs in the institution's service area. The needs of business and industry are complex and change rapidly. To be effective and efficient, institutions must ask themselves a number of questions before they can assess the true impact of their current academic offerings on economic and workforce development needs. The answers to these questions can focus institutional priorities and resources to support economic and workforce development initiatives.

Before Proceeding, Ask Yourself These Four Questions

- **How do we assess the congruence** between workforce development needs and our current curricular offerings?
- **How do we assess the economic and workforce development conditions** in our institution's service area?
- **How do we integrate the activities** for economic and workforce development into our institutional strategic and operational planning processes?
- **How do we maintain the vitality of the process** to assure sustainability?

Assessment Methods

Launching the Assessment Process

Begin by collecting and analyzing existing economic and workforce data. This will enable you to assess the "fit" between emerging and incumbent workforce educational needs and your current academic and noncredit programs and courses.

Equally important, your institution must understand the many ways—other than curricular—that it may affect economic and workforce issues. Take into account such activities as:

- Faculty and staff participation in local and regional economic and workforce boards and committees
- Faculty research and consulting with business and industry
- Faculty research and service to the nonprofit and social service sector, and
- Student internships and cooperative learning experiences.

Advisory Councils, Committees, Panels

Many institutions use advisory committees comprised of disciplinary or professional practitioners as an informal means of evaluating both credit and noncredit program outcomes. These typically include business, education, allied health, and engineering-related disciplines, and a select number of social service areas such as social work, sociology, and criminal justice.

Continuing education units frequently use advisory groups. Advisory council members can bring to he table an informed opinion of the skills and abilities students must master in order to perform uccessfully in their respective professions, as well as a reasonable understanding of existing and rojected workforce demands. Colleges and universities would be well served by the regular solicitaon of feedback on issues germane to workforce development.

community advisory panel provides a similarly helpful tool to keep current on issues important to local community. Typically, these panels include representatives from business and industry; local vernment; public, parochial, and private schools; public utilities; local media; and various nmunity leaders. Particular attention should be paid to the methods by which institutions internalize suggestions and recommendations offered by program and community advisory groups. For nple, focus on the broad trends rather than on narrow agendas advanced by an individual or a le group.

Survey Alumni and Use Focus Groups

Many institutions regularly survey both alumni and their employers to gather perceptions of how well the college prepared students for the world of work. Many of these survey instruments assess technical as well as soft skills and can provide nationally-normed comparative data. In addition to pencil and paper surveys, focus group interviews with alumni and employers offer valuable information for program planning or modification.

Audit Existing Curricula

An institution can gain knowledge of the fit between existing curricula and workforce development needs by examining its own curricula. For example, an examination of the degree to which service learning exists on an individual campus can help determine the "skills currency" of an existing curriculum. The recent national interest in service-learning opportunities has provided a platform for incorporating "hands on" activities into the student experience. An assessment of the practical results of these activities provides valuable data.

Review Assessment Plans

A review of student learning assessment plans and monitoring reports is also helpful. Regional and disciplinary accreditation bodies require detailed assessment plans for many academic programs offered by colleges and universities. Many of these accreditation requirements include outcomes assessment at both the academic program and course level. The assessment results can show how well the curriculum develops the knowledge base and skills outcomes that make for an engaged and skilled workforce.

Review Distance Education Curricula

Distance education curricula also provide a rich resource of data and information on the educational and training needs of the community. Distributed education programs can include strategic planning to accommodate the workforce training needs of business and industry. As institutions continue to incorporate technologies into the delivery of the curriculum, their "reach" extends and broadens to provide greater workforce training and development opportunities on-site.

Online Resources Used

A sampling of online resources USI used in its environmental scan include the following:

State Resources Used by USI:

- Indiana Department of Workforce Development (http://www.in.gov/dwd/)
- Indiana Commission for Higher Education (http://www.che.state.in.us/)
- Indiana Higher Education Telecommunications System (http://www.ihets.org)
- Indiana Career and Postsecondary Advancement Center (http://icpac.indiana.edu/home.html)
- Indiana College Network (http://www.icn.org)
- Indiana Fiscal Policy Institute (http://www.indianafiscal.org/)
- Indiana Department of Education (http://ideanet.doe.state.in.us/)
- USI President's Task Force Report (http://www.usi.edu/NEWSINFO/Work%20Force.pdf)
- Evansville Chamber of Commerce workforce development page (http://www.mevcc.org/)

National Resources:

- U.S. Census Bureau (http://www.census.gov/)
- U.S. Bureau of Labor Statistics (http://stats.bls.gov/home.htm)
- U.S. Bureau of Economic Analysis (http://www.bea.doc.gov/)
- Hudson Institute (http://www.hudson.org/)
- Hudson Institute's Study (http://www.mevcc.org/yourfirstplan.html#execsum)

Avoid Analysis Paralysis

Lack of available data and information rarely presents a problem. In fact, too much data can seriously hamper institutional assessment efforts by causing "analysis paralysis." This problem occurs when one has a large amount of data and information available and faces the temptation to over-analyze the data and draw conclusions perhaps not applicable or valid.

Tracking Trends: Environmental Boundary Scanning, Assessing Economic & Workforce Development Activity

Economic and workforce development planning activities occur on a seemingly constant basis. While some of these efforts show considerable forethought and skillful execution, others do not. These activities occur at all levels, federal, state, and local. Many result from collaborative efforts between or among various regional constituencies, involving the identification and engagement of professional consultants.

Examples of state and regional economic and workforce planning activities include the work of state departments of workforce development and commerce; mandates resulting from implementation of the new Workforce Investment Act; local and regional economic development planning; and initiatives from chambers of commerce, business consortia, and assorted related groups. Regardless of their level of rigor or statistical complexity, these studies provide a wide array of data and information that can help place the economic and workforce needs of your institution's service area into context.

Use caution, however. Much of the data from these studies can help colleges and universities supplement and focus their own internal analyses, still the findings of research inquiries may often appear in direct opposition to one another. For example, one report may indicate a significant shortage in a particular employment sector, while another study records an abundance of available workers. Fortunately, a number of valid and reliable indicators exist at national, state, and regional levels, among them reports from the U.S. Census, U.S. Bureau of Labor Statistics, and state Departments of Workforce Development. Frequently, Workforce Investment Board and Economic Development Council statistics offer available and trustworthy data.

Economic Impact Modeling

Providing a detailed and accurate picture of an institution's economic impact on its primary service area forms perhaps the single greatest contribution that a college or university can make to regional and local economic development initiatives. However, such a clear picture of the impact institutions have on their communities—in terms of direct spending, personal income, business volume, and employment—is rarely made available to economic and workforce planners.

Universities can generate hundreds of millions of dollars in business volume by virtue of their mere existence. Students, employees, and visitors also produce significant revenues for local business and industry. Institutional economic impact affects not only the local community but also, secondarily, the institution's entire service area. Institutional payroll, purchases, and contracted services reach beyond the institution's primary service area.

When identifying important economic patterns to highlight in an institutional economic impact model, do not overlook student spending. Students tend to outspend the institution, employees, and visitors by a margin frequently in excess of three-to-one. Capital expenditures in new construction and renovation also contribute significantly to institutional spending and job creation patterns.

Collaboration and Curricular Reform

Using Economic Development as a Strategic Lever for Curricular Change

Collaboration is the key to any successful institutional economic and workforce development initiative. Higher education by itself is ill prepared to evaluate, analyze, and formulate the education and training programs necessary to respond to the workforce needs of the 21st century. Institutions need to forge strategic partnerships in order to provide proactive programs for the various employment sectors. This proactive positioning represents sheer necessity as the technological complexities of 21st century work continue to unfold, posing persistent challenges to businesses as well as higher education.

Colleges and universities must approach these opportunities as occasions for engaging in institutional and regional economic transformation. Higher education institutions must commit to engagement and sustainability of campus-community partnerships in which the institution's intellectual capital is applied to the task of workforce and economic development, clearly linking institutional mission to partnerships that meet community and regional needs.

In this environment all institutions, particularly those publicly funded, must see themselves as community renewal partners. Outreach programs promoting active involvement in economic and workforce development must become central to the institutional mission. Proactive engagement in economic and workforce development issues at the state, regional, and local level can help institutions anticipate training needs and provide businesses with responsive, affordable options for employee training. Cooperation can take on many varied forms, including partnerships with other postsecondary educational institutions, K-12 education, business and industry, chambers of commerce, regional economic development organizations, school-to-work groups, and other municipal and social service sector agencies.

The Challenge of Change

Clearly the greatest challenge to any institution comes in modifying the existing curriculum to meet current and future workforce needs. The higher education curriculum is monolithic in nature and scope. Few forces of nature can change the college curriculum with any expediency. Faculty insularism, academic tradition, and "academic freedom" pose significant challenges to curricular reform. However, academic programs can and do change. Universities face a clear challenge: to find ways in which the curriculum can evolve to fit the special needs and interests of both the faculty and the economy.

Benefits of External Feedback

Incorporating external advisory committee needs, concerns, and opinions in the traditional academic program review process can benefit the institution, its curriculum, and the community in which it is located. Obviously, vocationally-oriented and professional degree programs lend themselves more readily to being included in such reviews than do those in the liberal arts. That said, the critical thinking and communication skills developed through a liberal arts curriculum are indeed highly valued skills in the workplace.

Soliciting feedback from external constituency groups can be mutually beneficial. Those serving on an advisory group are likely to acquire an understanding of how the college or university operates. Meanwhile, university leaders stand to gain an improved appreciation of the pressing needs of the private sector and how it wishes higher education to respond.

Lasting Alliances

Academic reform initiatives, whether modifying existing curricula or developing new academic programs in response to workforce needs, often benefit from the development of strategic partnerships and alliances. Universities can both support and find support in return from their strategic partners when institutions work to stimulate statewide economic and workforce development activities.

Frequently, state governments will respond positively in the form of financial support when higher education and the private sector collaborate to address emerging and manifest workforce issues. For

example, the University of Southern Indiana found state support for developing academic programs in applied computer science as a result of responding to legislative calls for programs and services to address pressing workforce development issues.

Soliciting Public Comments

Another useful approach involves soliciting public comment on the long-range curriculum and academic program plans developed by the institution. Most academic institutions prepare a short (1-5 year) and long-range (6+ year) plan for adding new academic programs to university degree and program offerings. Institutions would be well advised to solicit input from representatives of their service region when developing such plans.

Specific USI Project Outcomes

As a direct result of USI's collective engagement in internal assessment activities relative to economic and workforce development, the University capitalized on some significant opportunities and used these as levers for institutional change. Key changes include modification of the USI curriculum and the development of an improved academic program planning process. Also, as a result of internal and external reviews, the University developed a new set of academic and outreach initiatives, including the new academic programs below:

- **Bachelor of General Studies** - This program was revised to provide a more flexible adult degree completion program. New program components include 30-hour interdisciplinary concentrations which focus on communication skills, technical skills, and Information Technology management skills. Emphasis will be on articulation with two-year technical degree programs provided by community colleges. The revised program was implemented in 2001.
- **Masters in Public Administration** -This program is being designed to improve management/ technical skills of in-service employees of state, regional, and local government agencies and not-for-profit organizations. Commission approval will be requested for implementation in 2002.
- **Bachelor of Engineering** - A request to convert the existing Engineering Technology program to an engineering degree program is before the Commission for approval, to be implemented in 2002.
- **Bachelor of Science in Applied Computer Science** - This was approved by the Commission on Higher Education and implemented in fall 2001.
- **BA/BS in Special Education** - A minor was implemented fall semester 2001. The four year degree proposal is awaiting Commission approval for implementation in 2002.
- **Post Baccalaureate Certificates in Accounting and Information Technology**.
- **Other Expanded Workforce Training Programs** - New credit and noncredit certification programs and preparatory programs for professional certification testing were added.

With the need for these programs clearly articulated by various institutional constituencies, the University was able to incorporate them into its biennial budget request process with the state higher education commission and state legislature.

USI's assessment and evaluation endeavors also have enhanced development of distance education and distributed learning curricula. As a direct result of these activities, the institution has developed or is implementing the following distance learning programs:

- Nursing Program (BSN completion)
- Nurse Practitioner Program
- Master of Science in Health Services Administration (This was implemented fall semester 2001, and is now offered statewide through distance education delivery.)
- General Education
- Master of Business Administration
- Master of Science in Industrial Management

Other Outcomes & Specific Initiatives

Other initiatives of the University resulting from the needs/trends identified through the Task Force and other studies included:

• **Integrating Technology.** The University adopted a major focus on integrating technology into the existing curriculum. It offered an intensive summer faculty institute for online teaching and learning. This is the first in an on-going series of faculty development activities designed to promote expansion of technology-based instruction both on campus and at a distance. USI developed five-year strategic plans for distance education and technology. Distance education capabilities were expanded to support increased opportunities for adults, incumbent workers, and others with limited access to degree programs and training opportunities. Support for instructional design and delivery via telecommunications was significantly expanded.

• **Administrative Restructuring.** The assessment process also facilitated an administrative restructuring, leading to the development of the Office of Instructional Technology Services, the Organizational and Professional Development Group, and the reorganization of academic affairs administration to provide focus for undergraduate academic matters.

• **Renewed emphasis on outreach to regional employers and state workforce development agencies** resulted in more emphasis on consulting and assessment activities that resulted in long term relationships and more consistent workforce improvement programs. Examples of recent projects include:

- **A partnership with ALCOA Warrick Operations** to build on existing in-house training and encourage more employees and their families to participate in education. An ALCOA internal committee, composed of representatives of all levels of the workforce, conducted a survey of employees to determine types of programs in which there was interest. The initial product from this partnership is a five-course leadership certificate program with a focus on communications and business skills. Credits earned in the program can be applied to two- or four-year degree programs. The program is offered on site and at times to accommodate shift work. ALCOA provides full tuition support and 28 employees made up the first cohort.
- **REXAM Closures** originally requested a noncredit training program for management and technical skill development. After a lengthy evaluation and assessment process, it was decided that a graduate-level degree program was an alternate approach that better met company needs and employee goals. Working with the School of Business and the Engineering Technology Department, the Master in Industrial Management was customized as an on-site program with courses meeting at times and in formats that will accommodate the schedules of the employees. The company is fully funding the cost of the program, which began with a cohort of 26 students.
- **Inland Paperboard and Packaging** responded to a corporate strategy to transform the company to a high performance organization. Inland requested the University's assistance in providing employee soft-skill training in essential communication and team skills to move the operation to a self-directed workforce. Working with internal focus groups representing a cross section of hourly and salaried personnel, USI customized a 52-hour training program for 130 hourly and salaried employees at the Indiana Division of Inland. An additional 130 are in training at the Ohio Division. The Indiana project was funded in part through incumbent worker funds provided by the Departments of Commerce and Workforce Development.
- **A regional CPA firm** and USI Extended Services entered into a partnership to promote programs and services for small to medium-sized businesses. These clients often have limited Human Resource management capabilities. Through this agreement, USI will provide assessment and leadership training while the CPA firm will provide consulting, process improvement, and HR management services.
- **With funding from the State's incumbent worker initiative**, a 30-hour postbaccalaureate certificate program in Computer Information Systems was provided for five area employers having a need for improved CIS management capabilities. Eight employees from the cohort companies began the program fall semester 2000.

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Sustaining the Process

Meaningful economic and workforce development efforts must be dynamic and continuous. A snapshot of future and incumbent worker training needs at a single point in time quickly becomes outdated as technology advances and the requirements of a knowledge-based economy broaden. Colleges and universities are challenged to be proactive in their creation and implementation of workforce development and training programs.

Higher education must exert effort to assure that community partnership activities have a future. Projects undertaken with community constituents must be enabled to continue beyond the life of initial assessment activities. A visible commitment to the process of ongoing engagement is as important as the activities of assessment themselves. Addressing workforce and economic development challenges requires open venues for continuing discussion, planning and decision.

Trends to Note

Where the Jobs Are

According to the U.S. Department of Labor's Bureau of Labor Statistics, nationwide, occupations requiring more education have the fastest job growth. Of the new jobs being created by the year 2008, 69 percent of the highest paying jobs require a bachelor's degree or more. Managerial, professional, and technical specialists in the health and computer industries make up a large portion of these jobs.

■ The Bureau predicts that, by 2008, the highest paying occupations requiring at least a **bachelor's degree** will grow as follows:

- Systems analysts—577,000 more jobs (growing 94 percent over the 10 years since 1998)
- General managers & top executives—551,000 more jobs (16 percent growth)
- Computer engineers—323,000 more jobs (108 percent growth)
- Teachers, secondary school—323,000 more jobs (23 percent growth)
- Social workers—218,000 more jobs (36 percent growth)
- Teachers, elementary school—205,000 more jobs (12 percent growth)
- College & university faculty—195,000 more jobs (23 percent growth, requires a Ph.D.)
- Computer programmers—191,000 more jobs (a 30 percent growth)

■ The fastest growing, highest paying occupations requiring at least an **associate's degree** include:

- Registered nurses—451,000 more jobs (22 percent growth)
- Computer support specialists—439,000 more jobs (102 percent growth)

Though many new jobs are expected that require no postsecondary education, the vast majority of them are low or very low paying positions. Jobs in the low and very low paying categories pay a maximum of $10.88 per hour ($22,630 per year if salaried and working full time), but most pay less than $7.78 per hour ($16,182 per year). These jobs tend to be in the retail and service industries. They often have poor job security and no health or retirement benefits.

Because the minimum wage has not kept pace with inflation, low paying jobs have less purchasing power than they have in decades past. It is therefore important for continuing education programs to be as accessible and affordable as possible to older students struggling to gain skills or a degree in order to get a better paying job.

For details, see: http://stats.bls.gov/emp/emptab4.htm

Nationwide, Small Businesses Have Trouble Finding Skilled Workers

The **National Foundation of Independent Businesses** conducted two major polls of small businesses in April/May of 2001.

■ NFIB's survey *"The Changing Search for Employees"* studies how small firms compete in the labor market. With the economy slowing, labor markets are in transition and it is becoming somewhat less difficult to fill open positions. However, finding good people is still a challenge for small-business owners.

• 71 percent of firms that recently recruited new employees said it was "hard" or "very hard" to find qualified workers. About 30 percent of the companies looking for workers still need to outbid other employers by offering higher wages or better benefits.

• Two-thirds of the firms said they have gone without needed employees. Over half said they have had to cut back work hours, limit production or turn away business.

•A softening market means some employers are able to be "more selective" in hiring than they were last year. Almost half said they boosted their required skill level. One-third said they had higher standards for "personal conduct and attitude." However, education requirements are seldom raised.

• Much of the churning in the Information Technology sector is bypassing more traditional small business. Over 90 percent reported little or no worker turnover. About 61 percent said no workers have left their companies—voluntarily or involuntarily—since the beginning of the year.

Small Businesses Are Not Making Full Use of the Web

■ NFIB's survey on *"The Use and Value of Websites"* revealed:

• The Internet is a part of business for 57 percent of small employers. Firms use it primarily to communicate by e-mail with suppliers and customers and to research business information such as prices and new products. The most frequently cited reason for not having a Website is "our products/services do not lend themselves to sale online."

• Of those owners who are on the Internet, 61 percent have a business Website. Most Websites are fairly new, and the average life span of these sites is 21 months.

• Websites often do not generate income directly, but stimulate customers to make transactions by phone, fax or in person.

•Some Internet confusion exists. Though high-speed Internet service is available to relatively few small businesses, almost 60 percent believe they have access to it. Many businesses charge sales tax on all purchases, though some Internet sales are not subject to sales tax.

• One in three small-business owners do not know how much they spend on their Website, suggesting costs are low.

"More small businesses are getting on the Internet, but many are not sure exactly what they're getting into," said an NFIB spokesperson. "They do understand that they can get a benefit for a relatively low investment...but they have not yet exploited the technology to the extent that large companies have."

NFIB researchers expect that more small companies will harness the power of the web to compete more effectively against larger firms.

Polling was conducted April and May 2001 by Gallup for NFIB. Sample size for each poll is about 750 small-business owners (who employ fewer than 250 workers).

For details, see: www.nfib.org

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Rutgers University's Heldrich Center For Workforce Development
Recommended Links to Internet Resources

Federal and State Resources

• **usworkforce.org** - U.S. Department of Labor's comprehensive site on Workforce Investment Act (WIA) implementation and U.S. workforce policy.

• **www.ajb.org** - America's Job Bank—a comprehensive occupational information site for employers and job seekers.

• **www.alx.org** -America's Learning Exchange—a site for workforce development professionals. It provides Tools of the Trade: Resources for Workforce Professionals.

• **www.doleta.gov/programs/onet/** - O*NET, the Occupational Information Network, is an easy-to-use database that contains comprehensive information on job requirements and worker competencies.

• **www.ttrc.doleta.gov/onestop/spr-training.html** - U.S. Department of Labor's "Tool Kit for One-Stop System Building" page.

Interstate Associations

• **www.itsc.state.md.us/directory/directory/map.html** - Links to State Workforce Investment Sites - ITSC provides links to workforce development webpages in all 50 states.

• **www.itsc.state.md.us/onestop/osof_db/Partnerships.html** - Information Technology Support Center site provides a database of One Stop features, partnerships, employer and job seeker services by state.

• **www.mayors.org/uscm/wash_update/default2.html** - U.S. Conference of Mayors provides more workforce development information on this page.

• **www.naco.org/programs/social/index.cfm** - National Association of Counties workforce development page.

• **www.naco.org/programs/social/work/guide.cfm** - National Association of Counties Workforce Development and Social Services page includes a Rural Workforce Best Practice Guide.

• **www.nga.org/center/divisions/1,1188,C_ISSUE_BRIEF^D_1510,00.html** - National Governors' Association's Workforce Investment Act page.

• **www.nga.org/center/divisions/1,1188,C_ISSUE_BRIEF^D_1825,00.html** - National Governors' Association - NGA's welfare-to-work page.

• **www.nga.org/center/topics/1,1188,C_CENTER_ISSUE^D_407,00.html** - National Governors' Association - NGA's Youth development page.

• **www.nga.org/center/topics/1,1188,C_CENTER_ISSUE^D_409,00.html** - National Governors' Association workforce development page.

• **www.subnet.nga.org/workforcecouncilchairs** - National Association of Workforce Board Chairs - policy papers, a state officer contact area and links to resources categorized by topic, national organizations, and statistical information.

• **www.usmayors.org/uscm/home.html** - U.S. Conference of Mayors' Education & Workforce Training page includes WIA, welfare-to-work, and youth development materials.

• **www.workforce-excellence.net** - The Workforce Excellence Network represents the next generation of quality efforts for the workforce development system to foster unparalleled levels of quality services to its customers-job-seekers, workers, and employers.

Private and Non-Profit Sector Resources

• **www.nacc.nche.edu/initiatives/WRKFORCE/2000wdi/WDIMAIN.HTM** - American Association of Community Colleges' workforce development page. This comprehensive area for workforce service providers includes resources and training materials for faculty and administrators.

• **www.bcer.org/** - Business Coalition for Education Reform—provides comprehensive information on school-to-work initiatives. BCER works with 450 state and local business-education coalitions.

• **www.icesa.org/** - Interstate Conference of Employment Security Agencies (ICESA) is a national organization of state administrators of unemployment insurance, employment and training services, and labor market programs devoted to improving government services to workers and employers.

• **www.icesa.org/discus** - this WIA complaint information and information exchange page provides bulletin boards, discussion forums and Q&A sessions.

• **www.icesa.org/sections/links/index.cfm** - This ICESA page provides an archive of federal, state and other WIA materials.

• **www.icesa.org/subjects/wia/wialink.cfm** - This page provides links to some State Workforce Development Agency WIA sites along with other government and organization links.

• **www.nyec.org** - National Youth Employment Coalition - This members only site includes a "What's New" section with many useful links that is open to the public.

Research Organizations

• **www.bc.edu/crr** - The goals of the Center for Retirement Research are to promote research on retirement issues, to transmit new findings to the policy community and the public, to help train new scholars, and to broaden access to valuable data sources.

• **www.jcpr.org** - Joint Center for Policy Research - The Northwestern University/University of Chicago JCPR supports academic research that examines the causes and consequences of poverty and the effectiveness of policies aimed at reducing poverty.

• **www.mathematica-mpr.com** - Mathematica Policy Research, Inc. - Founded in 1968, Mathematica is a leader in policy research and analysis. They conduct evaluations of welfare, education, employment, and other policies.

• **www.mdrc.org** - Manpower Demonstration Research Corp.- a non-profit, non-partisan social policy research organization dedicated to learning what works to improve the lives of low-income individuals.

• **www.upjohninst.org** - W.E. Upjohn Institute for Employment Research - an independent, nonprofit research organization devoted to finding, evaluating, and promoting solutions to employment-related problems.

• **www.urban.org** - Urban Institute - a nonprofit policy research organization established in 1968 to sharpen thinking about society's problems and efforts to solve them.

• **www.workingforamerica.org** - Working for America - The AFL-CIO created the Working for America Institute (formerly the Human Resources Development Institute) to support labor-led strategies for building skills and raising living standards in our communities.

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